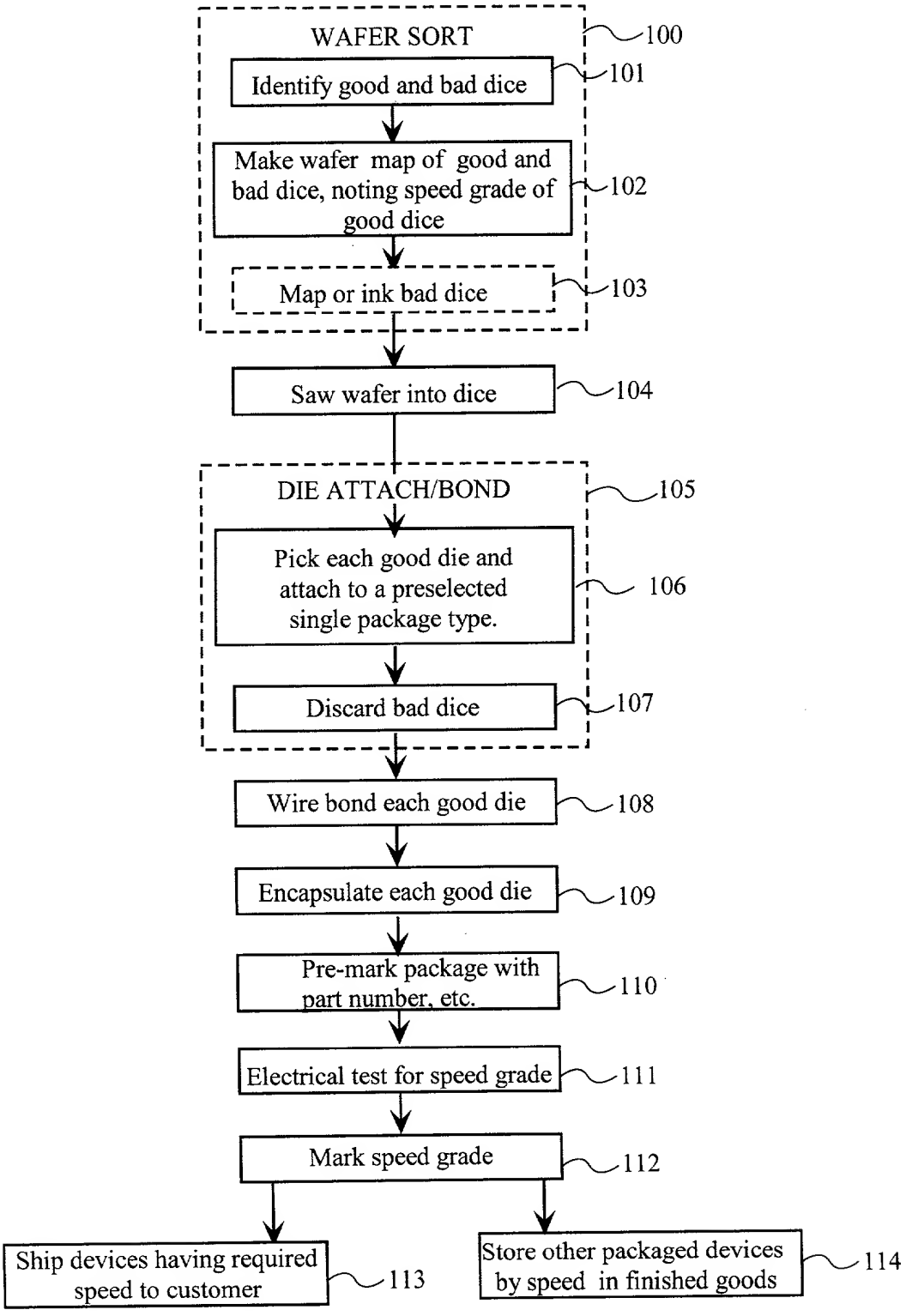

Fig. 1
Prior Art

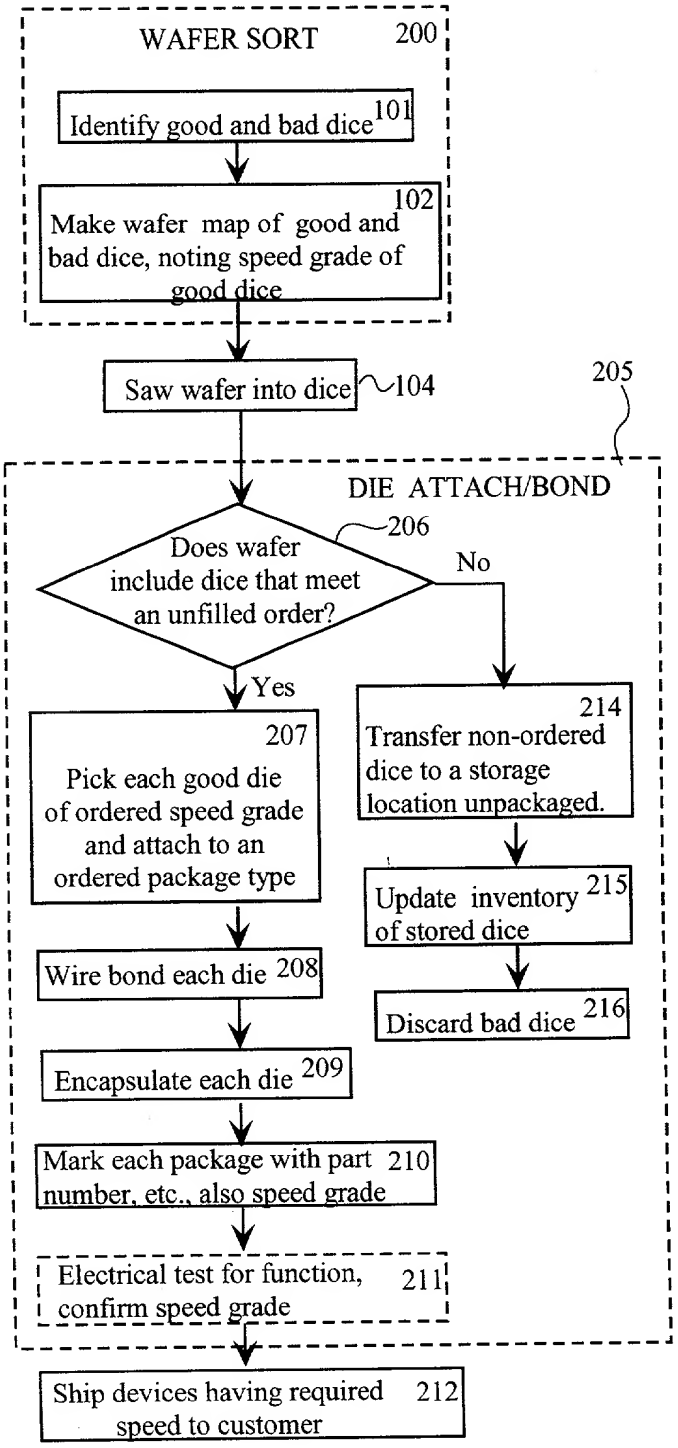
WAFER SORT 200
Identify good and bad dice 101
Make wafer map of good and bad dice, noting speed grade of good dice 102
Saw wafer into dice 104
205
DIE ATTACH/BOND
Does wafer include dice that meet an unfilled order? 206
No
Yes
Pick each good die of ordered speed grade and attach to an ordered package type 207
Wire bond each die 208
Encapsulate each die 209
Mark each package with part number, etc., also speed grade 210
Electrical test for function, confirm speed grade 211
Transfer non-ordered dice to a storage location unpackaged. 214
Update inventory of stored dice 215
Discard bad dice 216
Ship devices having required speed to customer 212

Fig. 2

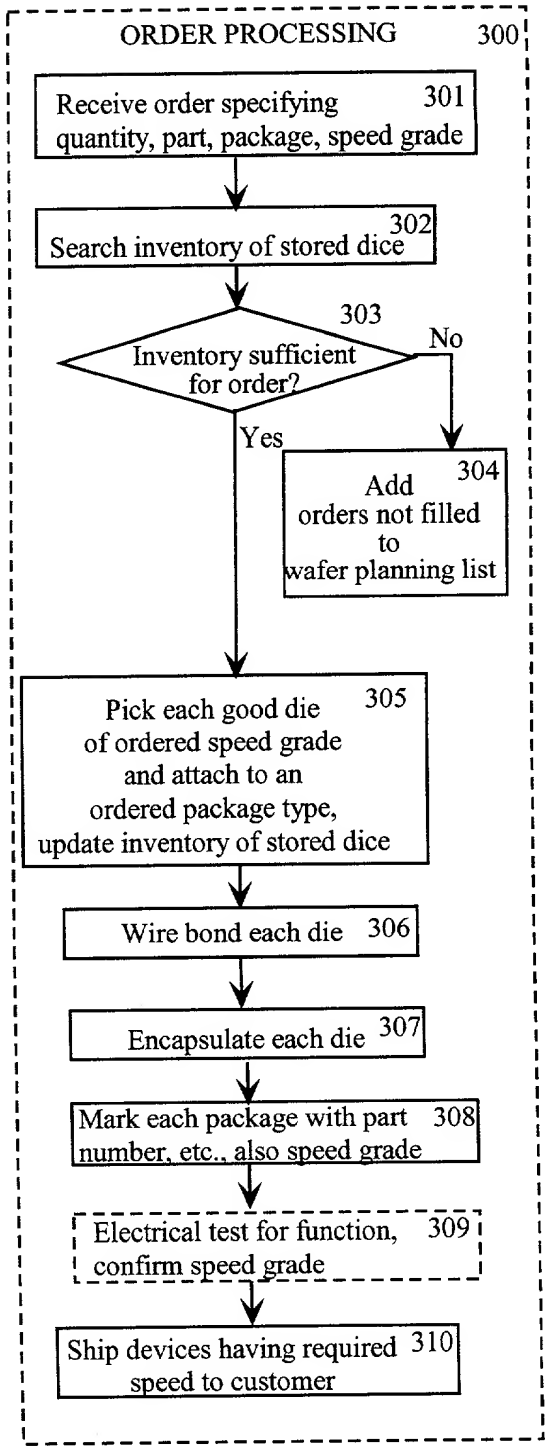
ORDER PROCESSING 300
Receive order specifying quantity, part, package, speed grade 301
Search inventory of stored dice 302
Inventory sufficient for order? 303
No
Yes
Add orders not filled to wafer planning list 304
Pick each good die of ordered speed grade and attach to an ordered package type, update inventory of stored dice 305
Wire bond each die 306
Encapsulate each die 307
Mark each package with part number, etc., also speed grade 308
Electrical test for function, confirm speed grade 309
Ship devices having required speed to customer 310

Fig. 3

Computer Memory of Diced Graded Inventory

Wafer	Loc	Speed
36541	31x12	5
36541	31x16	6
36541	31x17	5
36541	31x18	6
36541	31x19	6
36541	31x20	7
36541	31x26	6
36541	32x06	6
36541	32x08	5
36541	32x09	5
36541	32x11	4
36541	32x13	4
36541	32x14	5
36541	32x16	6
36541	33x06	6
36541	33x10	6
36541	33x16	6
36541	33x26	6
36541	34x26	5
36542	11x06	6
36542	11x07	6
36542	11x09	7
36542	11x16	6
36542	11x17	6
36542	11x18	7
36542	11x19	8
36542	12x01	8
36542	12x02	8
36542	12x04	7
36542	12x06	6

Fig. 4

Computer Memory of Orders Not Yet Filled

Qty	Part	Speed	Package
15	XCV1000	6	PQ240
40	XCV1000	7	FG256
25	XCV1000	5	BG352

Fig. 5